



## **DEPARTMENT OF PUBLIC WORKS**

This has been another good year for the DPW. The year began with another full construction season that covered the major divisions of the DPW and continued with a decent New England winter: Twenty-seven storms dropped a total of 45.772 inches of snow, as measured at the Town's Waste Water Pollution Control Plant down in the valley – a full twenty-six inches less than last year. Snow removal cost an average of \$3505 per inch this year. The winter was shaping up to be a very good snow maker but then faded in the final stretch to give a cool spring that led into another busy construction year.

The 2003-2004 construction season started with the largest paving contract in several years, as All States Asphalt and Warner Bros. Inc. paved 7.9 miles of roadways. DPW crews then completed the Sweetser Park sidewalk project and were able to start the College Street sidewalk and drainage project. The Contractor on Chapel and Mechanic Streets finished that sewer extension project before July 1. And in April and May of 2004, installation of the Pomeroy and West Street Traffic light by DPW forces and Pireria Construction Inc was completed. This was the first time Town forces had accomplished such a task.

The Town also completed the capping of Cell 3 of the landfill. With this project complete, the Town is no longer in the landfill business and now operates a transfer station at the old landfill site.

In addition to our construction work, the DPW continued its efforts to support the Town's goal of reducing our impact on the environment. The Water and Waste Water divisions continued to upgrade their infrastructure. The Department completed its first full year of using Bio-diesel fuel in its diesel vehicles. The DPW fleet is now 42 % alternative-fueled. There are 3 electric GEM cars, one propane vehicle and 26 Bio-diesel-fueled vehicles.

The DPW has also spent the year reinforcing our relationship with other Town departments and the Schools. By combining the paving of the Middle School parking lot and the Fort River Elementary School parking lot and paved playing areas into the Town's annual resurfacing contract, the schools were able to save money and tap into the DPW outside expertise. The DPW also provided construction support to the Fort River PTO in the addition of new playing areas and basketball courts.

As funds continue to become tight and prices rise, the DPW will continue to look for ways to conserve Town resources and build and enhance the relationships between the DPW and the rest of the Town, while improving our response to the community.

Guilford B. Mooring II, P.E.  
Superintendent of Public Works

## **CONSTRUCTION AND MAINTENANCE**

The personnel of the Highway Division completed the following projects during FY 04:

### **HIGHWAY RESURFACING:**

The following streets and roads were resurfaced, shimmed or reclaimed this year between July 2003 and November 2003, for a total of 7.9 miles. The shaded streets were paved as part of the Middle Street sewer extension project, partly supported by Chapter 90 funds. The DPW also reclaimed and resurfaced the Middle School parking lot and the Fort River school parking lot, and paved playing areas. Doing this work under one contract saved the Town, Town schools and Regional schools money and time.

#### **Reclamation 3"**

			<b>Length (ft)</b>	<b>Width (ft)</b>
Gatehouse Rd.	Entire		1730	32
Leverett Rd.	Entire		4600	23
Sherman Ln.	Entire		1545	30
Emily Ln.	Entire		1337	25
Eastman Ln.			200	31
E.Pleasant St.			1200	28
W. Pomeroy Ln.	Farmington	Town Line	1855	21
Snell St.	Entire		4007	24
Middle St.	Bay Rd.	Pomeroy	7700	21
Cranberry Ln.	Entire		645	27

#### **Shim and Overlay 3"**

Plumtrees Rd.	Rt. 63	Town Line	529	14
Elm St.	Entire		485	21
Potwine Ln.	Middle	Soccer Flds.	3590	20
Powine Ln. Ext.	Entire		670	20
Meadow St	Town Line	Russelville	3100	24
North Pleasant	Eastman In	2000 ft North	2000	24

#### **Overlay 2"**

Hallock St.	Entire		624	22
N. Prospect St.	Entire		1215	21
Pomeroy Ln.	116	Carriage	1565	24
Woodside Ave.	Entire		220	25
S. Orchard Dr.	Entire		1200	29
Barry Ln.	Entire		435	26
Blossom Ln.	Entire		660	33
Sherry Cir.	Entire		665	26
Mattoon	Entire		200	24

## **STORM DRAINAGE PROJECTS**

The College Street drainage and sidewalk project began this year and will continue into FY 05.

## **TRANSPORTATION IMPROVEMENT PROGRAM (T.I.P.)**

The only TIP project completed this year was the

Reconstruction of the College Street and South Pleasant Street (Route 9/Route 116)

There are no other TIP projects under construction or in planning.

## **OTHER PROJECTS:**

1. repaired Groff Park drainage
2. completed the Main Street/Lessey Street & Churchill project Phase II
3. installed a new traffic signal at the Pomeroy and Route 116 intersection
4. constructed new roll-off storage area for the transfer station
5. raised and reset granite curb on Hallock Street
6. demolished old Recreation Division shed next to the High School
7. provided construction support to the Fort River School PTO to add new equipment and repaint basketball courts
8. rebuilt sewer access at Boulders.

## **SANITARY SEWER DIVISION**

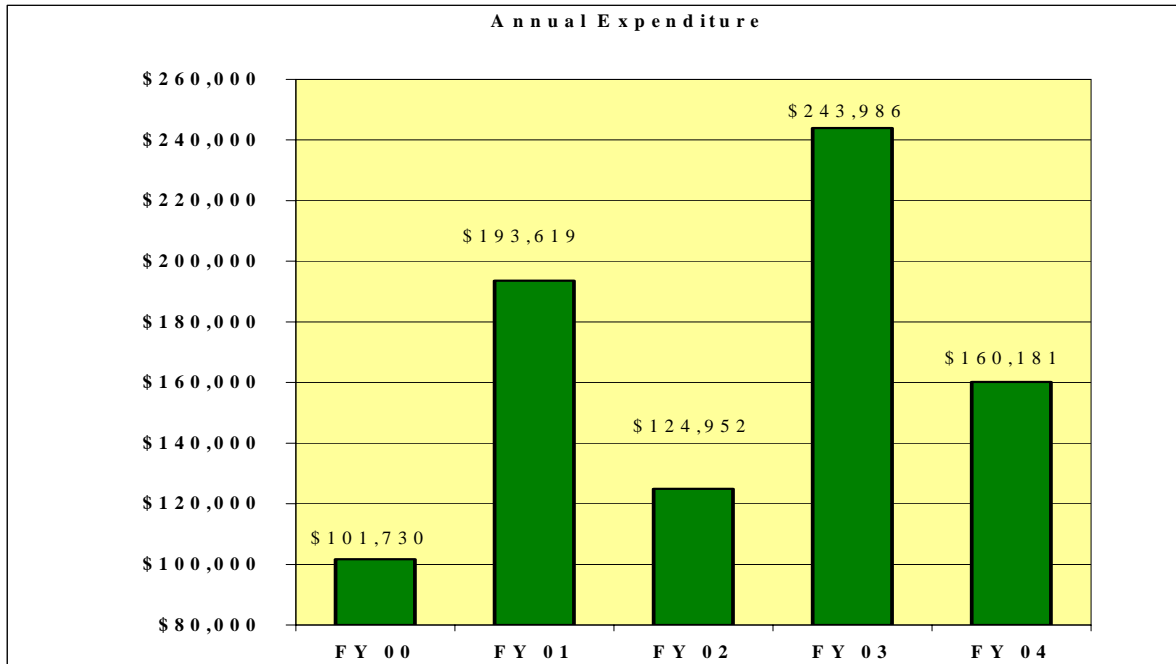
### **SEWER MAINTENANCE**

Investigated **47** sanitary sewer complaints and corrected **10 stoppages** in the collection system. Approximately 20 miles of sewer mains were cleaned and flushed. Problematic sewer locations are flushed and cleaned on a quarterly basis. The DPW, in conjunction with Dukes Inc., chemically treated 3000 feet of sewer line for root intrusion.

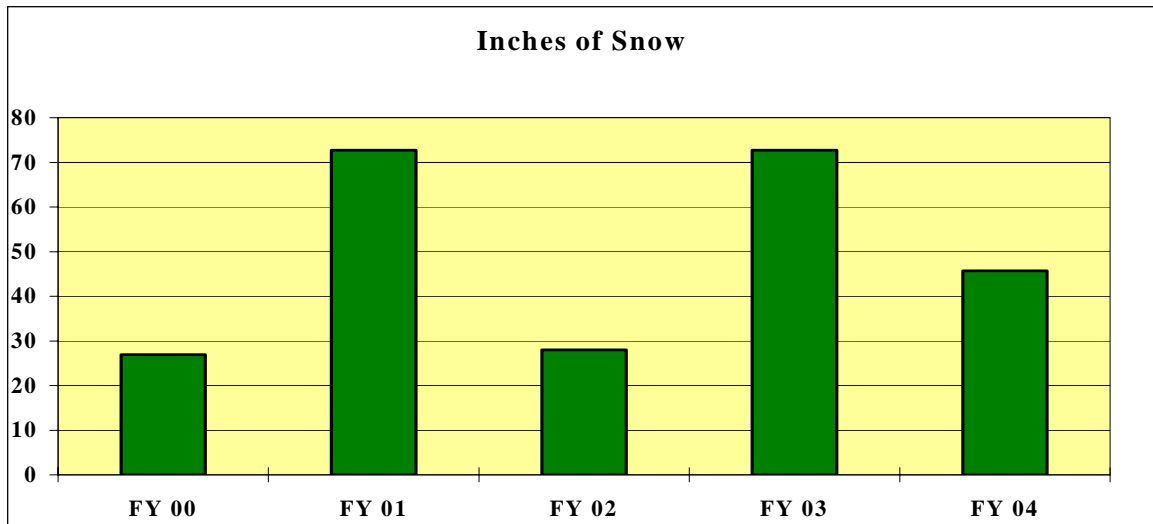
### **SEWER REPAIR**

NAME	PIPE SIZE	LENGTH	TYPE	REMARKS
Mountain View Drive Line	8"	500'	SDR	New Sewer

## **SNOW AND ICE REMOVAL**



There were 27 snow and ice storms, with a total of 45.7 inches of snow.  
3,299 tons of sand was used. 1463.28 tons of salt was used.  
10,301 gallons of Ice Band Magic were used on the roadways and sidewalks.



Year	Cost	Snow (inches)	No. of Storms
<b>FY 00</b>	\$101,730	26.9	10
<b>FY 01</b>	\$193,619	72.7	21*
<b>FY 02</b>	\$124,952	28.0	17**
<b>FY 03</b>	\$243,986	72.7	39***
<b>FY 04</b>	\$160,181	45.7	27

\*10 additional snow/ice events of less than 1" occurred, which required sanding operations only.

\*\*3 storms with no accumulation

\*\*\*7 additional snow/ice events of less than 1" occurred, which required sanding operations only.

## **TREE AND CEMETERY DIVISION**

The Tree Division removed a total of 114 street trees during the past year. Trees removed were: 2 silver maple, 12 red maple, 48 sugar maple, 14 American elm, 9 white ash, 1 cottonwood, 5 white birch clumps, 3 yews, 4 cherry, 3 elm, 1 cedar, 1 hemlock, 1 spruce, 1 poplar, 3 white pine, 1 Norway maple, 2 flowering crab, 1 pin oak, 1 arbor vitae and 1 weeping cherry.

During FY 04, 10 trees were planted.

No tree stumps were removed in FY 04.

In addition to tree-care responsibilities, this department, consisting of three full-time employees and one part-time summer employee, is also responsible for care and maintenance, including burials, at the West, North and South Cemeteries.

### **Burials in FY 04**

West Cemetery	0
North Cemetery	11
South Cemetery	9

## **PARKS DIVISION**

The Parks Division of five full-time employees and two part-time summer staff continue the day-to-day maintenance of our parks and commons, together with the maintenance of twenty-three softball, baseball, football, lacrosse and soccer fields and many multi-purpose areas. This year the Parks Division consolidated its work areas by officially taking over pool maintenance for the two outside pools and 3 wading pools, became the primary maintenance force for the parking garage and the downtown area and consolidated the field maintenance and lining activities of Town Departments.

As I mentioned in previous reports, continued heavy use of all our fields and facilities requires increased maintenance, due to continued wear and tear, and major renovations will undoubtedly be required at some of our facilities in the very near future. To facilitate the proper planning of this work, an existing-facility study was conducted of Town and School recreation areas.

## **WATER TREATMENT & DISTRIBUTION**

**Water Consumption:** The average daily water consumption for FY 04 was 3.66 million gallons; on the peak day, May 15, 2004, it was 4.773 million gallons. The total FY 04 rainfall was 51.41 inches, well above the 42- inch annual average. Reservoir levels were higher than normal and irrigation activities were very limited and did not have their usual impact on summer consumption.

The figures below summarize the amount of water pumped, the revenue generated and the chemicals used to treat the water. Chlorine and ammonia are used for disinfection. Potassium permanganate is used for iron and manganese removal at Well #4. Polymer is used for water treatment at the Atkins and Centennial water treatment plants. Fluoride is added at a level of 1 part per million to reduce tooth decay, and sodium hydroxide is used to elevate the pH of the water for corrosion control.

### **Water Services**

	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<b>New services installed</b>	52	26	42
<b>Total water services</b>	6,243	6,269	6,301
<b># Meters Replaced</b>	164	229	285

### **Chemical Usage - All Sites**

<b>Chlorine (lbs.)</b>	14,618	15,998	16,439
<b>Sodium Hydroxide (Gals)</b>	16,509	16,735	16,990
<b>Polymer (gals)</b>	2,830	2,463	2,425
<b>Potassium Permanganate (lbs.)</b>	589	1,029	503
<b>Ammonia (lbs.)</b>	2,996	3,444	3,748
<b>Sodium Fluoride (lbs.)</b>	23,525	23,185	22,395

### **Monthly Pumping in Million Gallons**

<b>Month</b>	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<b>July</b>	114.714	123.894	122.854
<b>August</b>	130.526	123.977	109.941
<b>September</b>	127.739	124.138	120.953
<b>October</b>	123.709	117.570	118.100
<b>November</b>	107.669	109.672	107.239
<b>December</b>	103.200	102.175	102.492
<b>January</b>	89.980	95.161	96.615
<b>February</b>	104.158	109.458	112.699
<b>March</b>	106.148	112.257	110.154
<b>April</b>	113.910	114.008	114.466
<b>May</b>	116.228	117.837	117.530
<b>June</b>	99.891	97.613	102.725
<b>Total</b>	<b>1,337.87</b>	<b>1,347.76</b>	<b>1,335.77</b>
<b>Daily Average</b>	3.66	3.69	3.66
<b>Maximum Daily</b>	4.89 (9/05/01)	5.14 (8/14/02)	4.773 (5/15/04)
<b>Minimum Daily</b>	2.32 (12/26/01)	2.355 (12/26/02)	2.007 (12/26/03)

### Monthly Pumping in Million Gallons

	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<b>Wells #1 &amp; #2</b>	223	197	152
<b>Well #3</b>	382	341	394
<b>Well #4</b>	73	118	55
<b>Well #5</b>	46	34	10
<b>Pelham Reservoirs</b>	295	259	305
<b>Atkins Reservoir</b>	319	396	416
<b>Total Water Pumped</b>	1,338	1,347	1,335
<b>Average Daily (millions)</b>	3.66	3.69	3.66

### Water Consumed – Cubic Feet

	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<b>UMass</b>	60,074,000	57,884,900	59,227,600
<b>Amherst College</b>	5,171,000	4,720,400	5,298,200
<b>Hampshire College</b>	2,372,600	2,478,800	2,642,000
<b>Town</b>	79,602,400	91,705,600	68,919,900
<b>Municipal</b>	1,335,800	1,356,300	1,160,300
<b>Special Water Readings</b>	324,900	1,659,300	272,200
<b>Other</b>	339,700	329,900	290,800
<b>Un-metered Use</b>	4,451,870	5,000,000	5,000,000
<b>Adjustments</b>	(94,000)	(182,900)	(339,200)
<b>Total Metered (ft<sup>3</sup>)</b>	153,766,270	159,952,300	143,150,200
<b>Total Metered (million gals.)</b>	1,115	1,200	1,071
<b>% Unaccounted</b>	16.6%	10.5%	19.8%

### Total Revenue – Dollars

		<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<b>UMass</b>	Water	\$1,109,294	\$1,064,359	\$1,300,790
	Sewer	\$1,020,517	\$986,480	\$1,026,973
<b>Amherst College</b>	Water	\$96,995	\$88,252	\$114,786
	Sewer	\$92,143	\$92,112	\$103,391
<b>Hampshire College</b>	Water	\$44,885	\$46,774	\$57,835
	Sewer	\$42,794	\$48,356	\$51,539
<b>Town</b>	Water	\$1,418,333	\$1,629,715	\$1,427,760
	Sewer	\$1,245,538	\$1,560,742	\$1,236,499
<b>Municipal</b>	Water	\$27,053	\$27,575	\$27,599
	Sewer	\$24,065	\$26,184	\$22,450
<b>Special Reading</b>	Water & Sewer	\$13,814	\$60,208	\$19,725
<b>Adjustments</b>	Water & Sewer	(\$13,737)	(\$25,926)	(\$12,877)
<b>Other</b>	Water & Sewer	\$12,430	\$12,549	\$11,443
<b>Total Revenue</b>		\$5,134,124	\$5,617,380	\$5,387,913



**WATER QUALITY DATA:**

**Bacterial Samples:** Bimonthly samples were analyzed from 27 sites around town. All samples were negative for coliform bacteria.

**Fluoride:** Fluoride was added to all sources at a level of 1.0 ppm to prevent tooth decay.

**Treatment Plant Performance:** Both the Atkins (Shutesbury) and Centennial (Pelham) Water Treatment plants produced water that meet the requirements set by the Environmental Protection Agency (EPA). The average turbidity from Atkins was 0.11 N.T.U. and from Centennial 0.09 N.T.U. The EPA requires that these readings be less than 0.3 N.T.U. in 95% of the samples. Total Trihalomethanes, a byproduct of chlorine disinfection, averaged 30.7 ppb from quarterly sampling at eight different sites around town. The EPA limit is 80 ppb. Haloacetic acids, another byproduct of chlorine disinfection, were also analyzed quarterly at 8 different locations; the average value was 36.1 ppm, well below the EPA limit of 60 ppm.

**Water Rate:** The water rates for FY 04 are listed below.

0 – 10,000 Cu. Ft.	\$2.00
10,001 – 100,000 Cu. Ft	\$2.10
100,001 Cu. Ft.	\$2.20

**Cross-Connection Program:** The cross-connection program was established in 1989 under Massachusetts Drinking Water Regulation 310 CMR 22.22 to prevent cross contamination of the water supply with hazardous substances. Water Department staff tests these devices twice annually.

Total Backflow Devices

	FY 02	FY 03	FY 04
Town	49	51	55
UMass	353	357	361
Amherst College	55	77	94
Hampshire College	24	26	25
Commercial	74	99	109
Total	555	610	644

**Chemical Analysis:** The following water analyses were run in FY 04; all levels of substance in the water were below the Maximum Contaminant Level set by the Safe Drinking Water Act.

- Inorganic Compounds – annually at all sources
- Total Trihalomethanes – quarterly distribution system samples at 8 locations
- Haloacetic Acids – quarterly distribution system samples at 8 locations
- Fluoride – daily at all sources
- Synthetic Organic Compounds – 3/4/03 at all sources

## OTHER ACTIVITIES

- A. **Well #3 Modifications:** Work was completed on this project by Davenport Construction of Greenfield, Massachusetts at a cost of \$273,510. The new pump, motor, and variable frequency drive allow more water to be withdrawn from the well. The emergency generator will provide full capacity operation of the well when normal power is interrupted.
- B. **Vulnerability Assessment:** This study was done by Tighe & Bond Consulting Engineers of Westfield, Massachusetts. It assessed security issues at all water facilities and included recommendations to improve security to prevent vandalism and protect against other potential threats. The cost of the study was \$9,500. The Town is fortunate to have multiple water supplies and facilities, so that failure of a single source would not shut down the water system.
- C. **Centennial Water Treatment Plant Study:** Tighe & Bond Consulting Engineers of Westfield, Massachusetts was contracted to perform a technical evaluation and recommend options for upgrading the water treatment plant. The facility is now over 20 years old and needs to be evaluated for improvement or replacement. Recent changes to the Safe Drinking Water Act have mandated improvements in treated water quality which might be difficult to meet with existing technology.
- D. **Well #1 & #2 Improvements:** Tighe & Bond acted as the Town's consultant to prepare plans and specifications for two contracts associated with improvements to Wells #1 & #2. The first contract was awarded to R.E. Chapman Company of West Boylston, Massachusetts for \$54,220. This will include a new pump, motor and chemical cleaning of Well #1. The work will be completed in the fall of 2004.

A second contract was awarded to C.D. Davenport of Greenfield, Massachusetts to replace underground piping and move the existing chemical-feed building at a cost of \$310,254. This work is being done to modernize facilities and to provide a safer working environment for employees. Work is expected to be completed by January of 2005.

Town forces contributed a considerable amount of work to this project to lower its cost. The installation of the new electrical service, switchgear, variable frequency drive, underground conduits, and wiring of the building was done by DPW staff. Because of the energy savings realized by this project, Northeast Utilities will also contribute about \$26,000 in incentives.

- E. **North Pleasant Street Area Water Main Improvements:** Tighe & Bond acted as the Town's consultant in this project, which involved cleaning and cement lining of a total of approximately 9,600 linear feet of 8" diameter cast iron water main on North Pleasant Street from Eastman Lane to Pine Street, Sunderland Road from Pine Street to Cows Road and Cows Road. The project was successfully completed in the fall of 2003 by Biszko Contracting Company of Fall River, Massachusetts, at a final cost of \$542,421.82. Water quality and the volume of water available for fire fighting have greatly improved in the areas affected by this project.

**F. Massachusetts Department of Environmental Protection Grant:** Work on this grant for \$48,000 continued in FY 04.

1. The Hitchcock Center for the Environment developed and began teaching a groundwater protection education module for the Amherst and Pelham Elementary Schools. This program will be offered to all elementary schools and will include a plexiglass cross-sectional soil profile to visually demonstrate the pathways by which contaminants from industry and the home get into the drinking water.
2. Two additional sampling wells were dug to improve our program to monitor any potential contaminants from the Old Landfill or other sources of contamination of the Lawrence Swamp Aquifer.
3. A water supply protection plan was developed by Tighe & Bond Consulting Engineers for the Pelham Reservoirs.
4. Mr. Lincoln Fish, Consulting Forester for Bay State Forestry Services, was contracted to develop a comprehensive forest and timber management plan for the forested watershed lands of the Pelham and Atkins reservoirs watersheds. This will incorporate the recently completed timber inventory and will propose a forest cutting plan for the future. This study will provide the Town with a forest management plan for optimizing timber value, wildlife habitat, aesthetic value and water quality.

**G. Geographic Information System (GIS):** Substantial progress was made on the Town's GIS system for utilization by water and sewer department personnel. A simplified computer browser has been set up to access important records and plans from the desktop computer as well as from lap top computers for field use. This has proven to be a very valuable tool for field utility workers who will no longer have to return to the DPW to access plans.

Robert E. Pariseau  
Director of Water Resources

## **WASTEWATER TREATMENT PLANT**

### **Flow Data**

The Wastewater Treatment Plant treated 1.65 billion gallons of wastewater in FY 04. The highest daily flowrate recorded was 15.1 million gallons on 9/23/03.

	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<i>Inches of Rainfall</i>	34.46	45.23	51.45
<b>Average Daily Flow In Million Gallons</b>	3.67	4.15	4.44
<b>Highest Day in Million Gallons</b>	10.1 (9/21/01)	11.0 (3/21/03 & 4/11/03)	15.1 (9/23/03)
<b>Chemicals Used</b>			
<b>Chlorine (lbs.)</b>	13,656	12,775	11,840
<b>Polymer (lbs.)</b>	3,092	2,963	2,687
<b>Potassium Permanganate (lbs.)</b>	5,335	3,795	2,475

Chlorine is used to disinfect the wastewater prior to discharge into the Connecticut River. Polymer is used to thicken sludge as part of the disposal process. Potassium permanganate is used for odor control.

### **Treatment Efficiency**

The water that is discharged into the Connecticut River is tested in our treatment plant laboratory. Many process control tests are performed to optimize treatment and produce the best quality effluent possible. The Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (DEP) monitor our activities and measure our effectiveness by the parameters listed below. No violations of our EPA discharge permit occurred in FY 04.

<b>Parameter</b>	<b>EPA Limit</b>	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<b>Biochemical Oxygen Demand (mg/L)</b>	30	14.7	12.8	13.1
<b>Total Suspended Solids (mg/L)</b>	30	4.3	3.5	3.7
<b>Chlorination (mg/L)</b>	1.0	0.55	0.55	0.47

### **Septage Received**

The treatment plant receives septage from residential septic tanks pumped from the towns of Amherst, Pelham and Shutesbury. Below is a summary of the number of septic tanks (usually 1000 gallons) that were pumped.

	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<i>Amherst</i>	185	136	132
<b>Pelham</b>	61	48	58
<b>Shutesbury</b>	86	67	85
<b>Total</b>	332	251	275

### Sludge Data

Sludge is the residual organic material left after the wastewater is treated. We currently thicken these solids on-site, and Casella Waste Management is under contract to deliver the liquid sludge to an EPA-approved sludge incinerator. Sludge in FY 04 was transported to three incineration facilities: Fitchburg, MA; Millbury, MA; Cromwell, CT and to the solid waste incinerator in Springfield, MA.

<b>Sludge Data</b>	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
<b>Total Gallons (transported)</b>	3,515,265	3,638,000	3,711,200
<b>Total Dry Tons</b>	1,040	1,100	1,080
<b>% Solids</b>	7.1%	7.3%	7.0%

<b>Month</b>	<b>Total Gallons</b>	<b>Ave. % Solids</b>	<b>Total Dry Tons</b>	<b>Dry Tons Per Day</b>
<b>July</b>	216,000	7.2	64.7	2.1
<b>August</b>	233,500	7.0	68.4	2.2
<b>September</b>	349,000	7.1	104.0	3.5
<b>October</b>	395,500	7.3	120.0	3.9
<b>November</b>	341,000	6.9	97.5	3.3
<b>December</b>	318,500	7.1	94.9	3.1
<b>January</b>	193,900	7.3	58.7	1.9
<b>February</b>	373,800	6.5	102.0	3.5
<b>March</b>	364,000	7.0	106.0	3.4
<b>April</b>	395,500	7.0	115.0	3.8
<b>May</b>	314,500	6.8	88.6	2.9
<b>June</b>	216,000	6.8	61.2	2.0
<b>Total</b>	3,711,200		1,081.0	
<b>Average</b>	309,270	7.0	90.1	3.0

## Power Consumption

	FY 02	FY 03	FY 04
<i>Avg. kWh/month</i>	104,533	108,558	96,577
<b>Avg. kW Demand</b>	224	227	230

### Facilities Improvements:

**Northeast Utilities Energy Saving Projects:** In FY 04 the following projects were completed at the wastewater treatment plant, totally funded by Northeast Utilities.

1. **New Aerator Motors:** Three new 40-horsepower, premium-efficient motors were installed on the aeration tanks
2. Three heat pumps were installed at the plant to replace existing electric space heaters. These units will extract heat from the plant effluent and provide a more energy efficient heat source for the plant.

### The following construction projects were done by the treatment plant staff:

- A. **Primary Sludge Pumps:** The two original primary skimming pumps, grinders, controls and piping were replaced.
- B. **Stanley Street Pumping Station Controls:** Plant staff replaced one 100hp pump and motor, installed two variable frequency drives and a programmable logic computer to control the total operation of the pumping station.
- C. **Dog Pound:** A new dog pound was erected by a contractor at the treatment plant in the spring of FY 04. The building was just a shell, and DPW employees did most of the interior design, wiring, carpentry, heating, ventilation, painting and landscaping to turn the building into usable space.

**Construction and Engineering Projects:** Camp Dresser and McKee of Boston, Massachusetts provided consulting services to the Town for the following projects:

- A. **Sewer Master Plan:** In January of 2004 a draft plan was submitted to the Town. The document investigates all unsewered areas of town and develops a priority and need assessment for sewer extensions in the future. The draft study will be reviewed by the appropriate Town officials in FY 05.
  1. **Chapel Road, Southeast and Mechanic Street Sewer:** Approximately 6,400 feet of polyvinyl chloride (PVC) sewer, force main and one pumping station were installed in FY 04. Sanitary sewers (4,000 feet) were installed on Chapel Road and Mechanic Street, a pumping station was installed at the intersection of Mechanic Street and Southeast Street, and 2,400 feet of 6 inch force main was installed to pump the wastewater northerly to the last existing manhole. Borges Construction of Ludlow, Massachusetts was awarded the contract for \$665,133.25 in September of 2003. The work was completed in the summer of 2004 and residents were allowed to connect after 7/1/2004.

2. **Primary Clarifier Drives:** In November of 2004, a contract was awarded to Nuwater, Inc. of Seekonk, Massachusetts for the replacement of three clarifier gear box drives on the existing treatment units. The project cost was \$118,200 and the work was completed in June of 2004.
- B. **Final Clarifier Drain Valves:** Waterline Industries of Seabrook, New Hampshire installed three 12-inch eccentric plug valves on the clarifier drains serving final clarifier 2 and 3. The project cost was \$185,485; it was completed in the summer of 2004. The project was very difficult because the valves were located about 25 feet deep, in a narrow space between the two clarifiers, and the 36" reinforced concrete effluent pipeline was located directly over the valves.
- C. **Kendrick Park Area Sewer:** Caracas Construction of Ludlow, Massachusetts completed the installation of approximately 2,200 linear feet of 8", 10" and 12" diameter polyvinyl chloride and ductile iron sewer. This project eliminated sections of aging and maintenance-intensive sewers on Pray Street, McClellan Street, Beston Street, North Pleasant Street and East Pleasant Street. The project cost was \$200,950, and the work was completed in September of 2003.
- D. **Amherst College and Main Street Sewer Rehabilitation:** This contract includes the rehabilitation of approximately 3,000 linear feet of 12" and 2,000 linear feet of 8" vitrified clay and transite pipe using a cured-in-place liner. The contract price was \$238,091.28 and was awarded to Insituform Technologies, Inc. of Charlton, Massachusetts. The rehabilitation involved by-pass pumping of the wastewater, cleaning of the existing pipe, pulling a new internal liner into the existing pipeline, and curing the liner to form a continuous leak-proof insert in the old pipe. Amherst College contributed 50% of the cost of the sewer replacement that went through the campus. The project was completed in September of 2003.

Robert E. Pariseau  
Director of Water Resources

## **SOLID WASTE & RECYCLING**

Fiscal Year 2004

Change was the recurring theme for FY 04 for the solid waste and recycling programs. A number of improvements were made at the Transfer Station and Recycling Center to make the Transfer Station an easier, cleaner, and more pleasant place for residents to recycle and dispose of solid waste.

With the capping of the last cell of the sanitary landfill came the installation of a flare to burn off methane gas generated by the decomposing organic matter. Litter, noise and odor complaints have greatly decreased and the bulk of the sea gull population has left for areas with better food supplies. Newly planted grass growing on the cap of the landfill provided a significant improvement to its appearance and a big reduction in dust. Roll-off containers now stand in a paved pit in the center of the yard, making it easier for our customers to dump their solid waste materials into them. Transfer Station staff more easily hook up filled roll-offs for transportation to the Northampton landfill. The former tack room for the Police Department horses is the new scale house office.

The new scale house provides an office for the transfer station staff to check loads, accept disposal fees, and sell “dump” stickers, recycling bins, and composters. Residents have been enthusiastic about being able to pay disposal fees at the transfer station when they drop materials off, instead of having to make a separate trip to the DPW office. The computerized database and scale allows customers to be “weighed in and out” and generates receipts. The Recycling Coordinator completes the required reports and organizes food waste composting by Amherst schools and special events such as Household Hazardous Waste Days and Paint Collections.

Curbside pickup of trash and recyclables continues to be provided by private trash haulers. This fiscal year, almost five hundred households received variances to Pay as You Throw (PAYT), which allow them to use pre-paid bags for their trash and bring their recycling and trash directly to the Transfer Station. Information about Amherst’s trash and recycling, including the curbside pickup calendar and PAYT can now be found at the new Town of Amherst website: [www.amherstma.gov/](http://www.amherstma.gov/), under Town Departments, DPW and pages under Recycling. Additional information about Amherst trash and recycling policies can be found on [www.Earth911.org](http://www.Earth911.org). The Earth Machine and the New Age composters, recycling bins and kitchen counter pails are all available at the transfer station. Rain barrels to capture roof rain runoff have been available to Town residents through special promotions from the New England Rain Barrel Company in conjunction with the annual Earth Day celebrations.

The Recycling Center supports fifteen recycling programs that divert materials from disposal in a landfill. Clothing (Goodwill), rechargeable batteries, waste oil, mixed containers, mixed paper, leaves and Christmas trees are all accepted at no charge. The Take-It-or-Leave-It and Book Shed areas are very popular, with considerable flow of incoming and outflowing materials and books. A steadfast group of volunteers is dedicated to sorting, displaying items and assisting staff in educating the public about the appropriate materials for these areas. Transfer Station staff greatly appreciate the considerable work that these volunteers contribute to the maintenance and upkeep of these areas.

Fluorescent lamps of all shapes and sizes, brush, electronics, household solid waste, construction and demolition waste, scrap metal, household hazardous waste, paint, tires, appliances and



propane tanks are all accepted for recycling and disposal after payment of fees. The programs listed below show types and amounts of materials recycled from FY 02 through FY 04.

	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>
Chipped Brush/Leaves (tons)	536	310	397
Electronics (tons)	12.4	12	16.93
Scrap Metal (tons)	292	176	193.78
HHW in household equivalents	145	216	210
Paint (gallons)	945	1,301	996
Tires (count)	556	410	636
Appliances	600	557	543
Propane Tanks	98	190	220